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Notice of Allowability	Application No.	Applicant(s)	
	10/734,999	MARSH ET AL.	
	Examiner	Art Unit	
	Khanh B. Duong	2822	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--
 All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the request for continued examination filed October 31, 2005.
2. ☒ The allowed claim(s) is/are 38-101.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| <ol style="list-style-type: none"> 1. <input type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. 7. <input type="checkbox"/> Examiner's Amendment/Comment 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance 9. <input type="checkbox"/> Other _____. |
|---|--|

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination (RCE) under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on October 31, 2005 has been entered.

Response to Amendment

This office action is in response to the amendment filed with the RCE above.

Accordingly, claims 38, 40 and 74 were amended, and new claims 83-101 were added.

Currently, claims 38-101 are pending.

Allowable Subject Matter

Claims 38-101 are allowed.

The following is an examiner's statement of reasons for allowance: none of the prior art of record, taken alone or in combination, fairly shows or suggests all the limitations as claimed.

Re claim 38, none of the prior art of record discloses a deposition method comprising the following limitations in combination with the rest of the limitations of the claim: flowing multiple time spaced inert purge gas pulses within the deposition chamber intermediate the flowing of the first precursor gas and the second precursor gas, said multiple time spaced inert purge gas pulses being characterized by a period of time between two adjacent of the multiple time spaced inert purge gas pulses which is void of flowing the first precursor gas and the second precursor gas to the chamber.

Re claim 40, none of the prior art of record discloses a deposition method comprising the following limitations in combination with the rest of the limitations of the claim: flowing a first precursor gas within the deposition chamber to form a first monolayer on the substrate, said first precursor gas flowing comprising a plurality of first precursor gas pulses, at least two of the plurality of first precursor gas pulses separated by a period of time when no gas is fed to the chamber, the plurality being more than two during formation of the first monolayer.

Re claim 52, none of the prior art of record discloses a deposition method comprising the following limitations in combination with the rest of the limitations of the claim: after forming the second monolayer on the substrate, flowing a third precursor gas different in composition from the second precursor gas within the deposition chamber to form a third monolayer on the substrate, the third precursor being different in composition from the first precursor.

Re claim 63, none of the prior art of record discloses a deposition method comprising the following limitations in combination with the rest of the limitations of the claim: after forming the second monolayer on the substrate, flowing a third precursor gas different in composition from the second precursor gas within the deposition chamber effective to form a third monolayer on the substrate.

Re claim 74, none of the prior art of record discloses a deposition method comprising the following limitations in combination with the rest of the limitations of the claim: flowing multiple time spaced inert purge gas pulses within the deposition chamber intermediate the flowing of the first precursor gas and the second precursor gas, said multiple time spaced inert purge gas pulses being characterized by a period of time between two adjacent of the multiple

time spaced inert purge gas pulses which is void of flowing the first precursor gas and the second precursor gas to the chamber.

Re claim 75, none of the prior art of record discloses a deposition method comprising the following limitations in combination with the rest of the limitations of the claim: after forming the second layer on the substrate, flowing a third precursor gas different in composition from the second precursor gas to proximate the substrate within the deposition chamber to form a third layer on the substrate, the third precursor gas being different in composition from the first precursor gas.

Re claim 76, none of the prior art of record discloses a deposition method comprising the following limitations in combination with the rest of the limitations of the claim: after forming the second layer on the substrate, flowing a third precursor gas different in composition from the second precursor gas to proximate the substrate within the deposition chamber effective to form a third layer on the substrate.

Re claim 77, none of the prior art of record discloses a deposition method comprising the following limitations in combination with the rest of the limitations of the claim: after forming the second monolayer on the substrate, flowing a third precursor gas different in composition from the second precursor gas within the deposition chamber effective to form a third monolayer on the substrate.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khanh B. Duong whose telephone number is (571) 272-1836. The examiner can normally be reached on 10:00-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zandra Smith can be reached on (571) 272-2429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



KBD



ZANDRA V. SMITH
SUPERVISORY PATENT EXAMINER

8 Jan. 2006